

What is claimed is:

1. A disk drive device for recording and/or reproducing information to and/or from an information recording disk and driven by a power supply voltage in a vehicle, comprising an engine start detecting part for detecting an engine start of said vehicle, said disk drive device being driven after said engine start detecting part detects an engine start of said vehicle.

2. A disk drive device for recording and/or reproducing information to and/or from an information recording disk and driven by a power supply voltage in a vehicle, comprising:

a head for reading and/or writing information from and/or to said information recording disk;

a head driving part for giving a driving instruction to said head;

an engine start detecting part for detecting an engine start of said vehicle; and

a head movement allowing part for allowing the head to be moved by said head driving part after an engine start of the vehicle is detected by said engine start detecting part.

3. The disk drive device according to claim 2, further comprising a forcible moving part for forcibly moving said head to a retreat position when the power supply voltage in said vehicle is interrupted.

4. The disk drive device according to claim 3, wherein said forcible moving part forcibly moves said head to

the retreat position by providing said head driving part with counter electromotive force generated by the inertial rotation of a spindle motor driving said recording disk to rotate.

5. The disk drive device according to claim 1, further comprising a voltage value monitoring circuit for monitoring voltage values on a first power supply line provided with a backup power supply and a second power supply line provided with a power supply when an engine key is inserted and turned from a first position to a second position,

said engine start detecting part outputting an engine start detection signal when the voltage value on said second power supply line reaches a prescribed value, and then the value on the first power supply line or the values on the first power supply line and the second power supply line become lower than said prescribed value and then higher than said prescribed value, based on an output value from said voltage value monitoring circuit.

6. The disk drive device according to claim 5, further comprising a voltage value monitoring circuit for monitoring a voltage value on a third power supply line provided with a power supply when an engine key is turned from the second position to a third position, and a voltage value on a fourth power supply line provided with a power supply when the engine key is turned from said third position to a fourth position,

said engine start detecting part outputting an engine start detection signal when the voltage value on said second power supply line or said third power supply line reaches a prescribed value, and then the voltage value on said first power supply line or the voltage values on said first power supply line and said second power supply line become lower than said prescribed value and then higher than said prescribed value, based on an output value from said voltage value monitoring circuit.

7. The disk drive device according to claim 1, wherein

said engine start detecting part outputs a signal representing an operation state of the engine by sensing an output of an engine tachometer.

8. The disk drive device according to claim 1, wherein

said engine start detecting part outputs a signal representing an operation state of the engine by sensing vibration of the engine inside and outside the vehicle.

9. The disk drive device according to claim 1, wherein

said engine start detecting part outputs a signal representing an operation state of the engine by sensing an engine sound.

10. The disk drive device according to claim 1, wherein

said engine start detecting part outputs a signal representing an operation state of the engine by sensing traveling of the vehicle based on a vehicle speed pulse.

11. The disk drive device according to claim 1, wherein

said engine start detecting part outputs a signal

representing an operation state of the engine by sensing traveling of the vehicle using a gyro sensor.

12. The disk drive device according to claim 1, wherein said engine start detecting part outputs a signal representing an operation state of the engine by sensing an operation position of a parking brake.

13. The disk drive device according to claim 1, wherein said engine start detecting part outputs a signal representing an operation state of the engine by sensing operation of a generator in the vehicle.

14. The disk drive device according to claim 1, wherein said engine start detecting part outputs a signal representing an operation state of the engine by sensing activation of a starter-motor.

15. The disk drive device according to claim 10, wherein information on a previous off state of the engine is backed up in a memory, and said information is displayed on a screen in response to detection of a power supply being provided to said second power supply line.

16. A disk drive device driven by a power supply voltage in a vehicle, comprising:

a counter for starting counting operation based on a prescribed signal related to a key switch in said vehicle; and

a controller for driving said disk drive device when said counter has counted a first prescribed time period.

17. A disk drive device driven by a power supply voltage

in a vehicle, comprising:

a head for reading/writing information from/to a recording medium mounted to said disk drive device;

a head driving part for giving a driving instruction to said head;

a counter for starting counting operation based on a prescribed signal related to a key switch in said vehicle; and

a head movement allowing part for allowing the head to be moved by said head driving part when said counter has counted a first prescribed time period.

18. The disk drive device according to claim 16, further comprising a power supply part for providing a power supply voltage to each part of said disk drive device in connection with the key switch in said vehicle,

said counter starting counting operation after the power supply voltage by said power supply part is provided to said disk drive device by said key switch.

19. The disk drive device according to claim 16, further comprising a voltage value monitoring circuit for monitoring a voltage value at said power supply part; and

a controller for detecting a voltage value result at said voltage monitoring circuit after said first prescribed time period, controlling said counter to count again when said voltage value is lower than a prescribed value, and driving said disk drive device when said counter has counted a second prescribed time period.

20. The disk drive device according to claim 16, further comprising a forcible moving part for forcibly moving said head to a retreat position when said power supply voltage in said vehicle is interrupted.

21. The disk drive device according to claim 20

said forcible moving part forcibly moves said head to a retreat position by providing said head driving part with counter electromotive force generated by the inertial rotation of a spindle motor driving said recording medium to rotate.

22. The disk drive device according to claim 16, further comprising an engine start detecting part detecting an engine start of the vehicle,

said disk drive device being driven when an engine start of the vehicle is detected by said engine start detecting part during the operation of said counter counting said first prescribed time period.